Laurel Message

From: Taft.PA

Date: 24 March 1980 5:23 pm PST (Monday)

Subject: Bug in 3K CRAM

To: Orr, Overton, Quarterman, Winfield, Mann, Burns

XEROX

The new batch of 3K CRAM boards have an error on them. There is a jumper wire from A61-5 to A60-8 (p. 3 of fabrication instructions) that should not be there. It causes flakey Ethernet behavior on some machines. I found this error during the last round of debugging, but SPG failed to delete this jumper from the fabrication instructions, so it is likely that any boards you have received to date contain this error.

Ed

cc: Blanchard.WBST
DMurray.WBST
Taft

REWORK INSTRUCTION FOR CONTROL MODULE WITH 3K CRAM.
(REFER TO FIGURE1)

CUT ETCH TO FEED THROUGH P2-14 (ETCH SIDE)
CUT ETCH TO FEED THROUGH P2-12 (ETCH SIDE)
CUT ETCH BETWEEN U51-8 AND U51-7 (ETCH)
CUT ETCH TO U70-10 (ETCH SIDE)

ADD JUMPER FROM	U37-12 TO U37-7 (ETCH)		
ADD JUMPER FROM	U51-7 TO U39-3 (ETCH)		
ADD JUMPER FROM	U68-9 TO FEED THROUGH P2-14 (ETCH SIDE)		
ADD JUMPER FROM	U68-12 TO FEED THROUGH P2-12 (ETCH SIDE)		
ADD JUMPER FROM	U25-11	TO FEED THROUGH	P3-7 (ETCH SIDE)
ADD JUMPER FROM	U25-3	TO FEED THROUGH	P3-8 (ETCH SIDE)
ADD JUMPER FROM	U25-4	TO FEED THROUGH	P3-9 (ETCH SIDE)
ADD JUMPER FROM	U25-6	TO FEED THROUGH	P3-10 (ETCH SIDE)

REPLACE U51 WITH SW3K PROM (82S126)

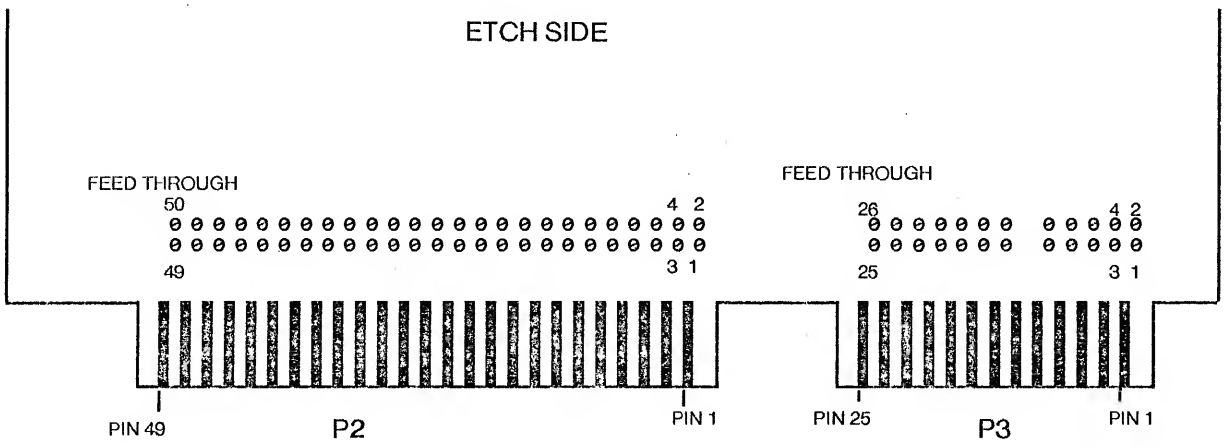

FIGURE 1

ISIS<PAE>DRAWINGS>CONTROL-MOD.SIL

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Title	
File	CONTROL-MOD.SIL
Xerox Corporation El Segundo, California	XEROX
Dwg. No.	Rev. A
Sheet 12 Of 4	

Revisions					
LAL	Rev	Description	Chk	Date	Approved
A	A	ENGRG REL			
	B	ENGRG REL		1/24/80	PAE
	C			3/1/80	WAKIDA

ISIS<PAE>DRAWINGS>2178120-C.SIL

Dist Code

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Notes Unless Specified

1. Tolerances
   .xx ± .03
   .xxx ± .010
   Angular ± 1/2°
2. Break All Sharp Edges .010 Approx
3. Mach. Surfaces
4. All Dim. in Inches

Drawn

Check

Appr.

Material

Xerox Corporation
El Segundo, California

XEROX

ASSEMBLY, PRINTED WIRING-
3K CRAM

Model No. First Use	Finish	Code Ident	Size	Dwg. No.	Change Letter
		18338	A	217812	C
Next Assy. First Use	File 3KCRAM01.SIL	Scale	Do Not Scale Drawing	Sheet	1 OF 16

NOTE: UNLESS OTHERWISE SPECIFIED.

1. FABRICATE PER XEROX SPEC 209454.

2. CUT ETCH PER INSTRUCTIONS.

A. CUT ALL ETCH LEADING TO

A52-11	ONE CUT	(ETCH SIDE)
A49-11	TWO CUTS	(ETCH SIDE)
A50-11	TWO CUTS	(ETCH SIDE)
A62-11	TWO CUTS	(COMP & ETCH)
A63-11	TWO CUTS	(COMP & ETCH)
A65-11	TWO CUTS	(COMP & ETCH)
A75-11	TWO CUTS	(COMP & ETCH)
A78-11	TWO CUTS	(ETCH SIDE)
A88-11	TWO CUTS	(COMP. SIDE)
A91-11	TWO CUTS	(ETCH SIDE)
A61-15	ONE CUTS	(COMP. SIDE)

CUT ALL ETCH LEADING TO A25-1 ONE CUT (ETCH SIDE)

B. CUT BOTH ETCH TO FEEDTHROW BETWEEN A68-18 AND A69-1 (ETCH,COMP)

C. CUT ETCH TO FEED THROUGH BETWEEN A52-10 AND A53-9 (COMP SIDE)

D CUT ETCH TO EDGE CONNECTOR FINGER J2-13 (ETCH SIDE) #

E. CUT ETCH TO EDGE CONNECTOR FINGER J2-15 (ETCH SIDE) #

F. CUT ETCH TO EDGE CONNECTOR FINGER J2-29 (ETCH SIDE) #

G. CUT ETCH TO EDGE CONNECTOR FINGER J2-30 (ETCH SIDE) #

H. CUT ETCH TO A84-1 (COMP SIDE) #

3. ADD JUMPER PER INSTRUCTION

A. ADD JUMPER FROM	P2-12	TO	A70-9	(ETCH SIDE)	#
B. ADD JUMPER FROM	P2-13	TO	A90-9	(ETCH SIDE)	#
C. ADD JUMPER FROM	P2-15	TO	A91-9	(ETCH SIDE)	#
D. ADD JUMPER FROM	P2-29	TO	A92-9	(ETCH SIDE)	#
E. ADD JUMPER FROM	P2-30	TO	A93-9	(ETCH SIDE)	#

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Title

ASSEMBLY, P.W.
3K CRAM

Xerox Corporation
El Segundo, California

XEROX

217812 FC

4. ADD JUMPER PER INSTRUCTION

a. A49-11 TO A23-5

A62-11 TO A23-3

A75-11 TO A23-1

A88-11 TO A12-1

A50-11 TO A12-3

A52-11 TO A23-9

A63-11 TO A12-5

A65-11 TO A23-11

A78-11 TO A23-13

A91-11 TO A12-13

A21-15 TO A21-8

A24-13 TO A25-1

A87-15 TO A87-8

A66-11 TO A35-7

A57-1 TO P1-69

A57-2 TO A39-1

A57-3 TO A61-15

A61-5 TO A60-8

A45-4 TO A12-9

A12-8 TO FEED THROUGH BETWEEN A52-10 AND A53-9

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Title

ASSEMBLY, P.W.
3K CRAM

Xerox Corporation
El Segundo, California

XEROX

217812 C

5.0 DRILL HOLE:

a. DRILL HOLE PER FIGURE3.

6.0 MOUNT CABLE ASSEMBLY (2533)AND PLATE ASSEMBLY (218054-001) PER FIG. 1 AND FIG.2.

7.0A ADD WIRE (OSERVE FIGURE 4)

CONDUCTOR 1 TO A83-07	GND	CIRCUIT SIDE
CONDUCTOR 2 TO A84-08	GND	CIRCUIT SIDE
CONDUCTOR 7 TO A84-13	CT8	CIRCUIT SIDE
CONDUCTOR 8 TO A84-14	CT4	CIRCUIT SIDE
CONDUCTOR 9 TO A84-15	CT3	CIRCUIT SIDE
CONDUCTOR 10 TO A84-01	CT1	CIRCUIT SIDE

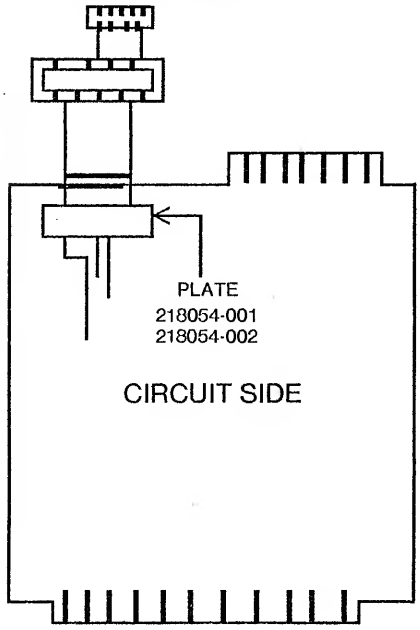

FIG. 1

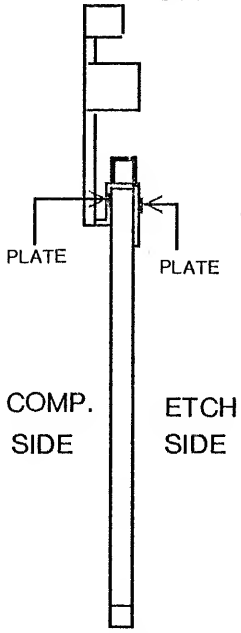

FIG. 2

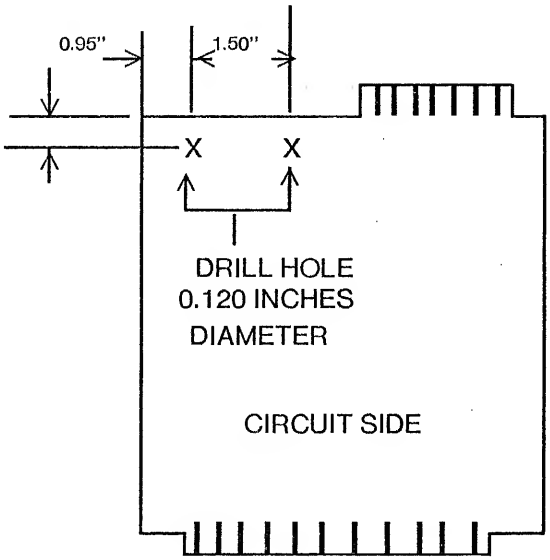

FIG. 3

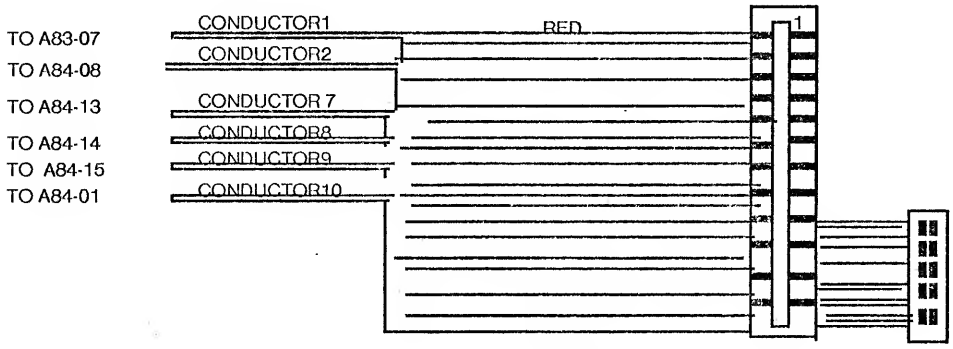

FIG. 4

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Title	ASSY, P.W. 3K CRAM
File	3KCRAM04.SIL
Xerox Corporation El Segundo, California	XEROX
Dwg. No.	217812
Rev.	B
Sheet	4 Of 16

Xerox Corporation
701 South Aviation Boulevard
El Segundo, California 90245

XEROX

MATERIAL LIST

ML	Drawing No.	Rev.
	217812	B

Rev.

Dwg. No.

Drawing Title

ASSEMBLY, P. W. -

3K CRAM

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Model No.	Date	Sheet
3KCRAM05.SIL		5 Of 16

	Item No.	Drawing Title		Drawing No.	No. Req.	Remarks
	1	Board, P. W.		217813	1	
	2	Procedure, Test			Ref	
ML	3	Spec, Assembly		216207	Ref	
	4					
	5	Microcircuit	74H00		2	A2, 46
	6		74S00		2	A13, 57
	7		74S04		6	A1, 11, 12, 23, 45, 58
	8		74S08		1	A83
	9		74S10		1	A40
	10		74S03		4	A36, 42, 43, 44
	11		74H20		1	A24
	12		74H21		1	A27
	13		74S30		2	A26, 28
	14		74S32		1	A70
	15		74S38		4	A3, 4, 5, 6
	16		7438		4	A7, 8, 9, 10
	17		74S138		1	A38
	18		74S153		1	A59
	19		74S157		8	A18,19,20,21,48,61,74,87
	20		74166		2	A72, 85
	21		74S174		5	A22, 29, 34, 35, 39
	22		74S175		7	A25,41,47,60,71,73,86
	23		74S189		1	A84
	24		74298		4	A30, 31, 32, 33
	25		F93422 FAIRCHILD		4	A14, 15, 16, 17
	26		82S126		1	A37
	27	Microcircuit	2147-3 INTEL		32	A49 THRU 56
						A62 THRU 69
						A75 THRU 82
						A88 THRU 95

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MATERIAL LIST

ML	Drawing No.	Rev.
	217812	B

Rev.

Dwg. No.

Drawing Title

ASSEMBLY, P. W. -

3K CRAM

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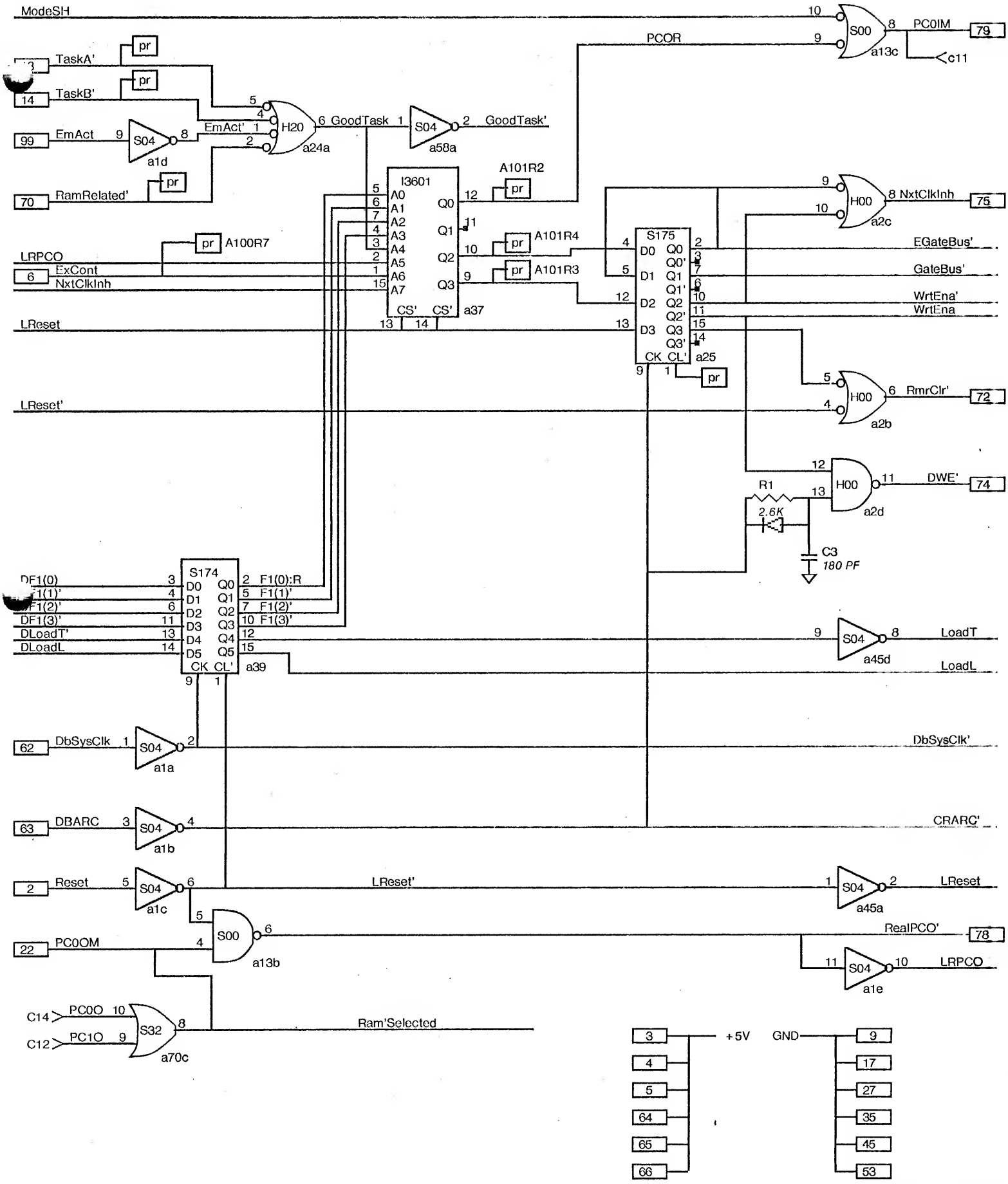
Model No.	Date	Sheet
3KCRAM06.SIL		6 Of 16

ML

Item No.	Drawing Title	Drawing No.	No. Req.	Remarks
28	Socket, 14 pin Augat 514-AG11D		31	
29	Socket, 16 pin Augat 516-AG11D		28	
30	Socket, 18 pin Augat 518-AG11D		32	
31	Socket, 22 pin Augat 522-AG19D		4	
32				
33	Capacitor, 22uf 20% 15V	187720-005	2	C1,C2
34	Capacitor, .047uf AVX DG0150473M		47	C4 THRU C50
35	Capacitor, 180pf		1	C3
36	Resistor, Film, 1K ohm 5% 1/4W		4	R2, R3, R7, R8
37	Resistor, Film, 2.7K ohm 5%, 1/4W		1	R1
38	Resistor, Film, 330 ohm 5%, 1/4W		5	R4, R5, R6, R9 ,R10
39	Resistor, SIP, 330 ohm (CTS 750-61-R330)		6	A96 TRU 101
40	Stiffener	216242	1	
41	extractor	216250	2	
42	rivet	156111-005	2	
43	ASSY, CABLE 3KCRAM/CONT INTERFACE	218055	1	
44	PLATE ASSEMBLY	218054-001	1	
45	PLATE ASSEMBLY	218054-002	1	
46				
47				
48				
49				
50				



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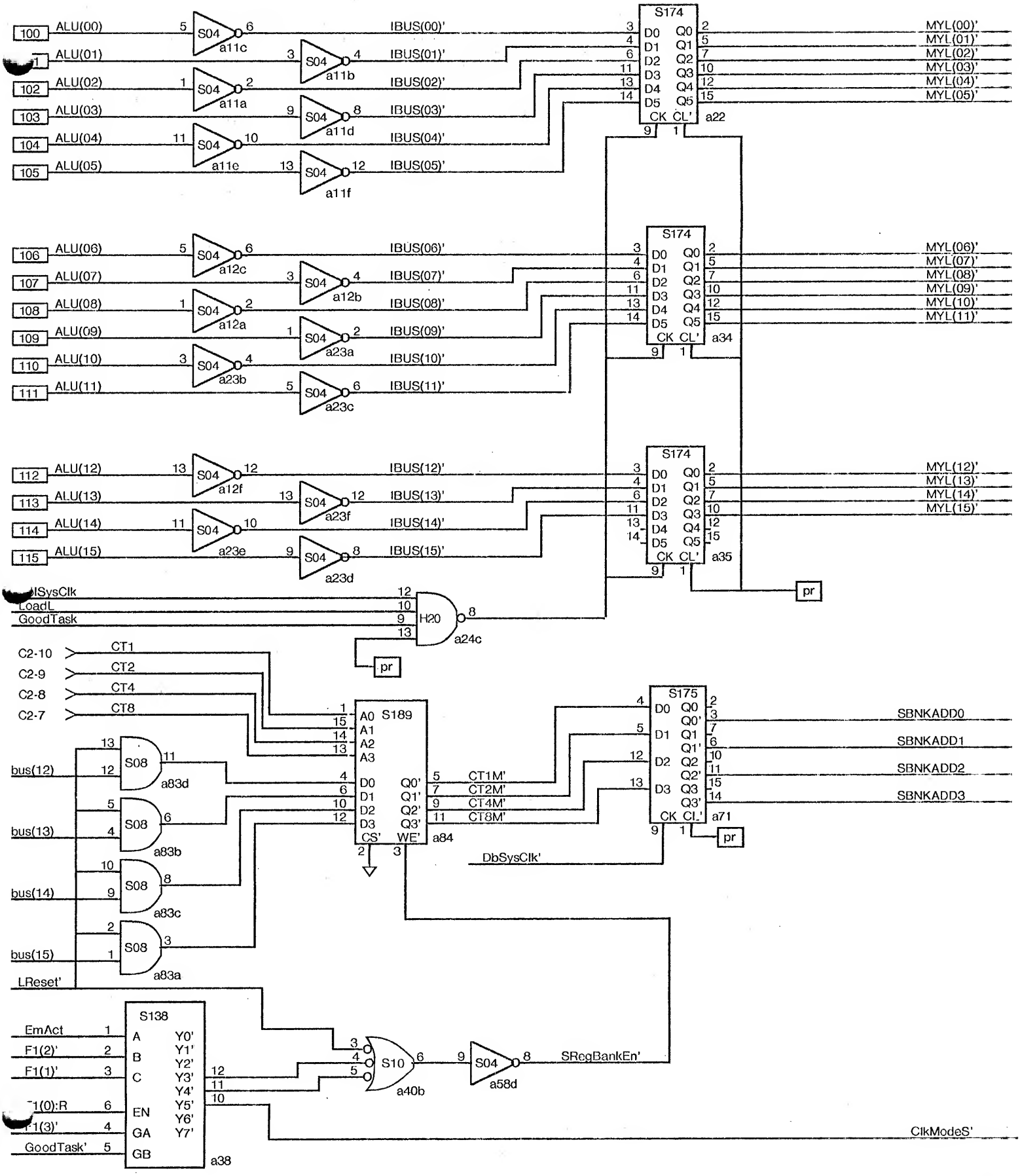
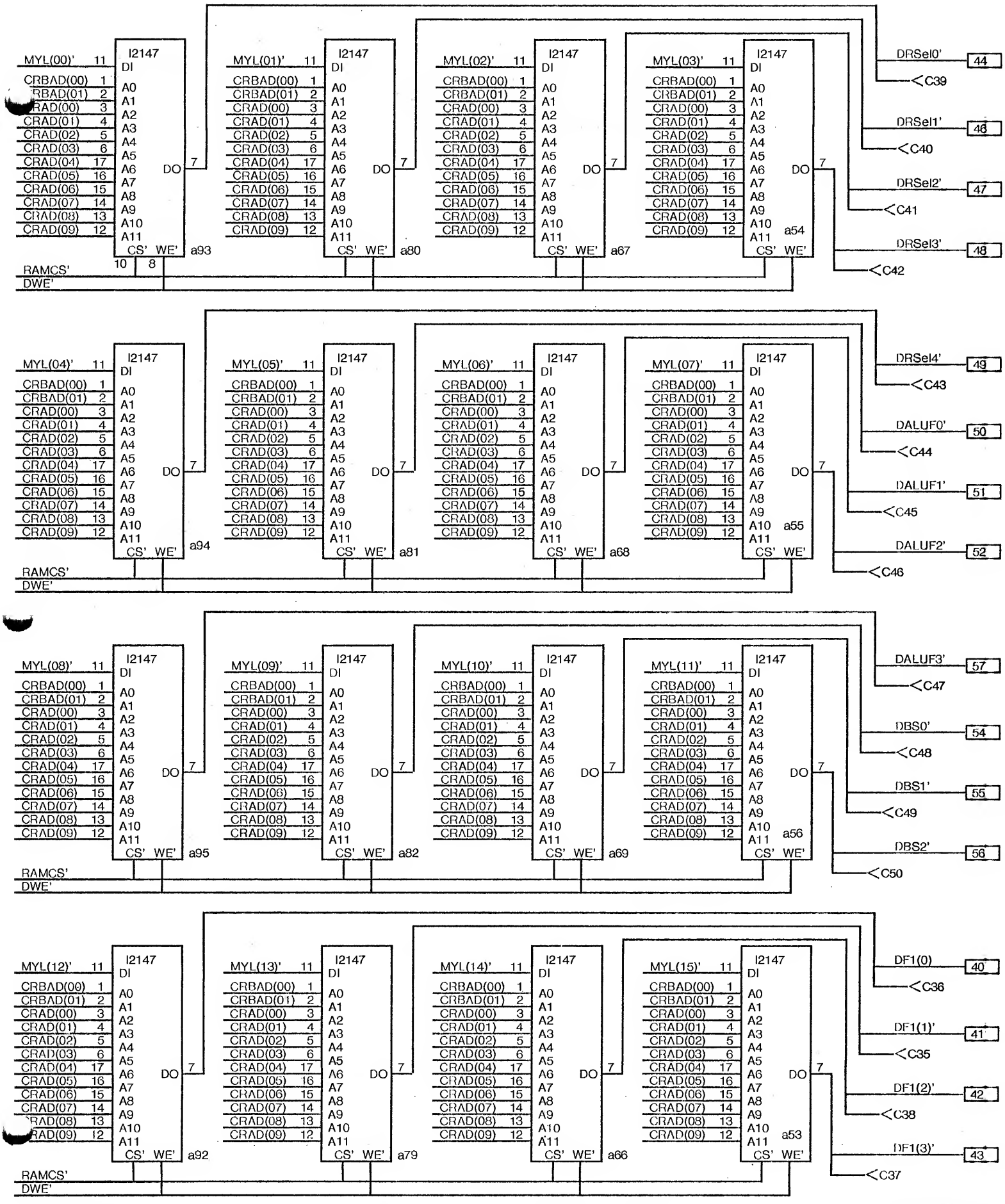
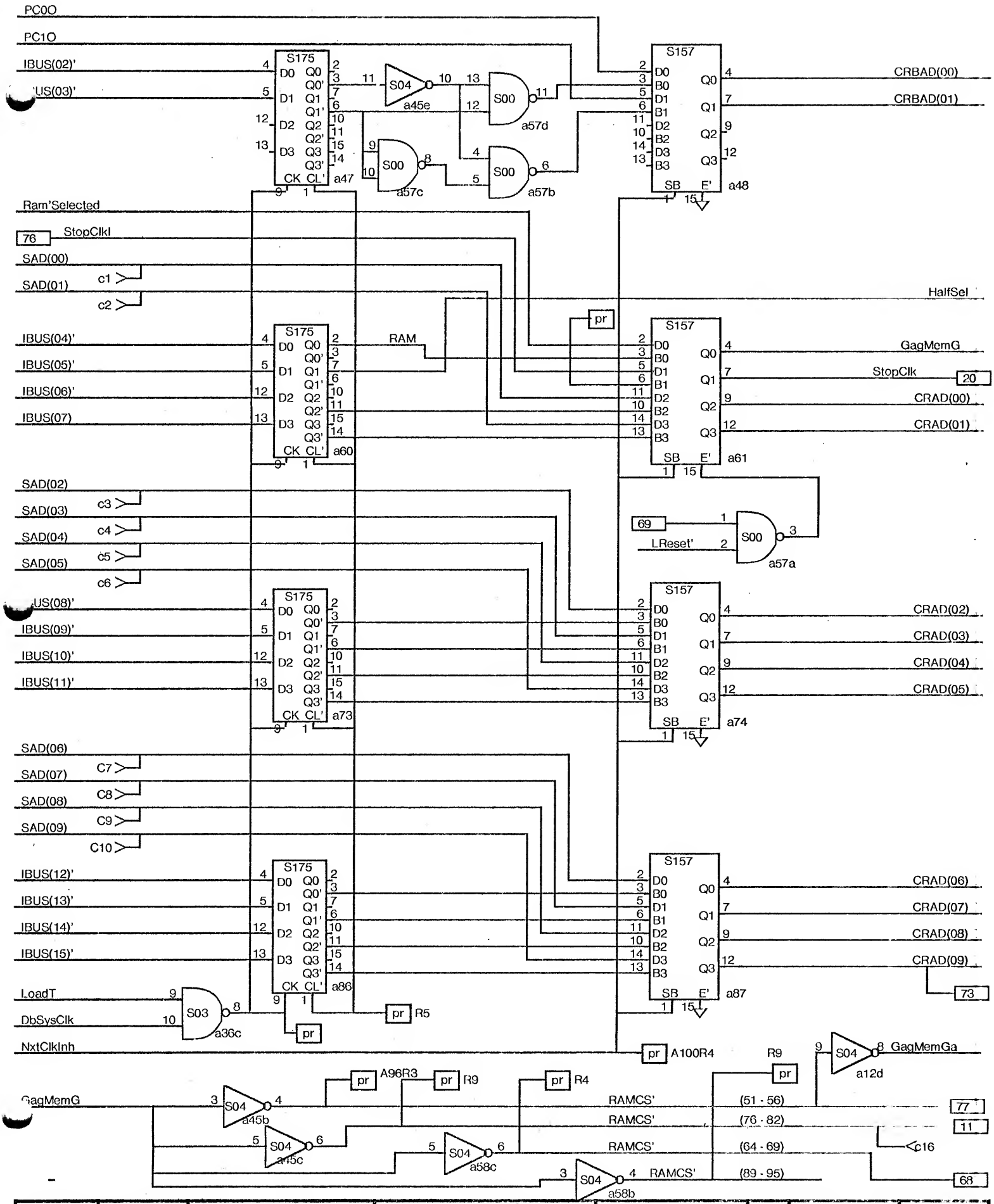


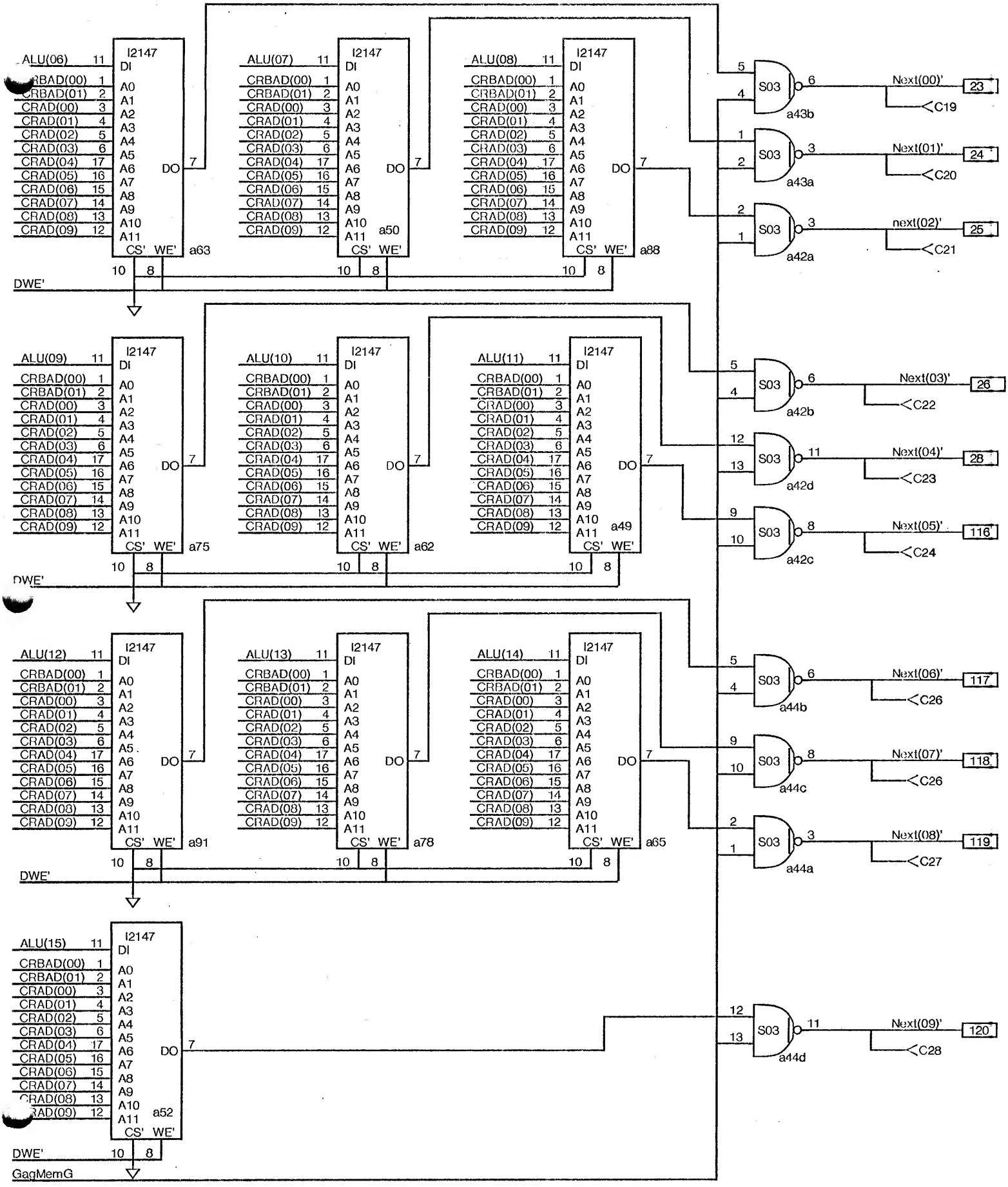
XEROX ED	Project 3K CRAM	ALU INTERFACE TASK CONTROL	File 3KCRAM09.SIL	Designer ALBERT PAE	Rev B	Date 2/21/79	Page 8



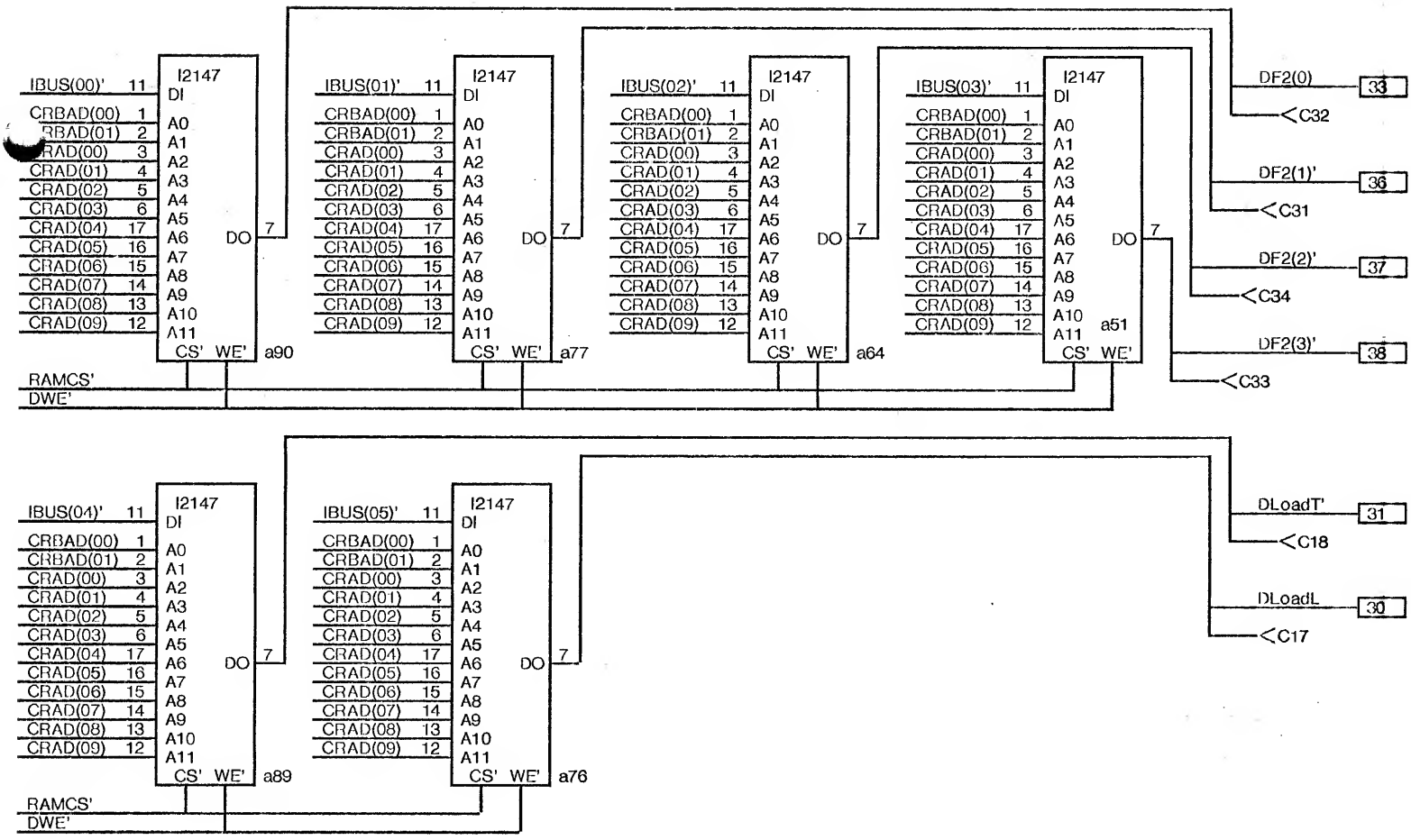
XEROX ED	Project 3KCRAM	4K RAM	File 3KCRAM10.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 9



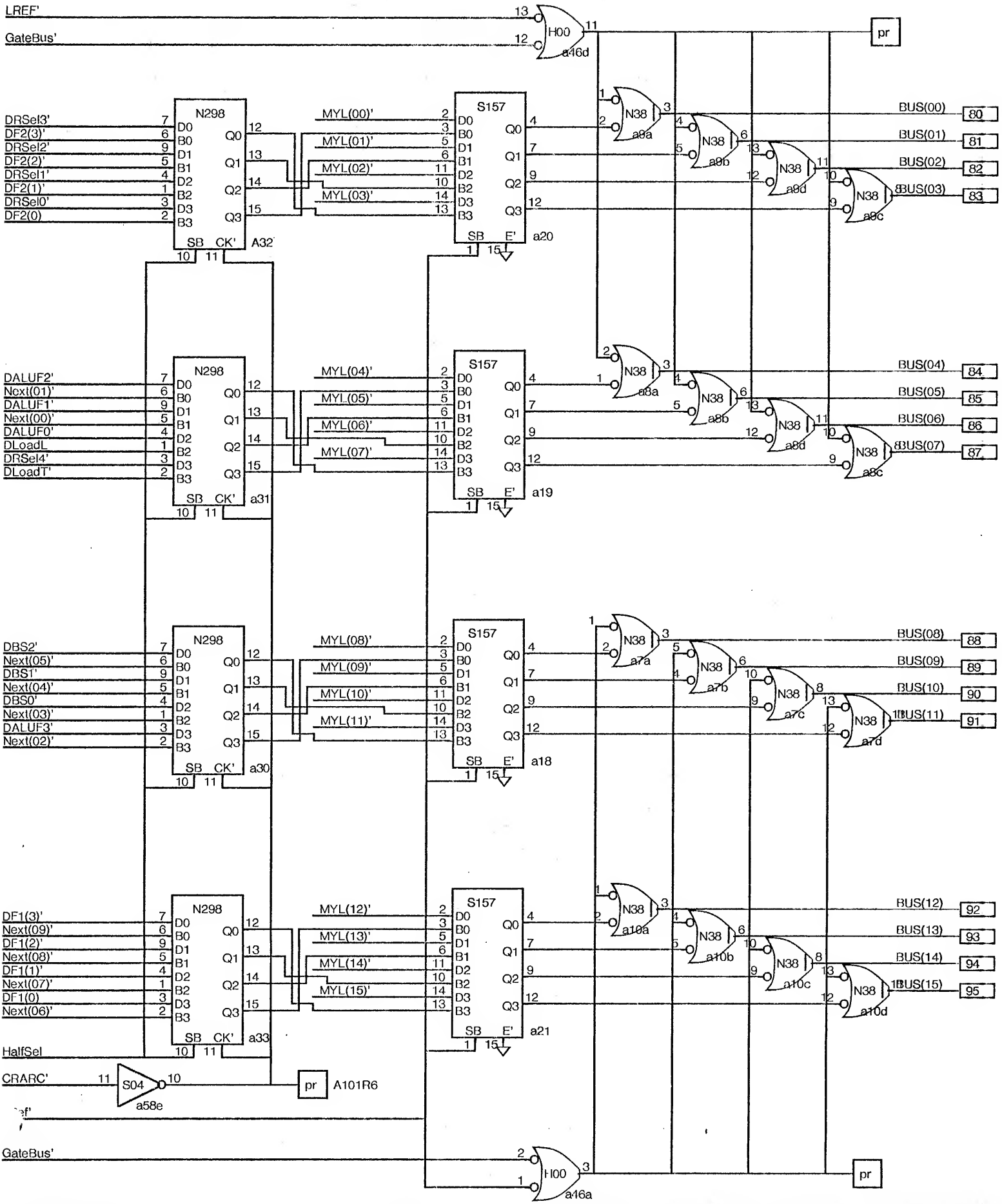
XEROX ED	Project 3K CRAM	ADDRESS SELECT	File 3KCRAM11.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 10



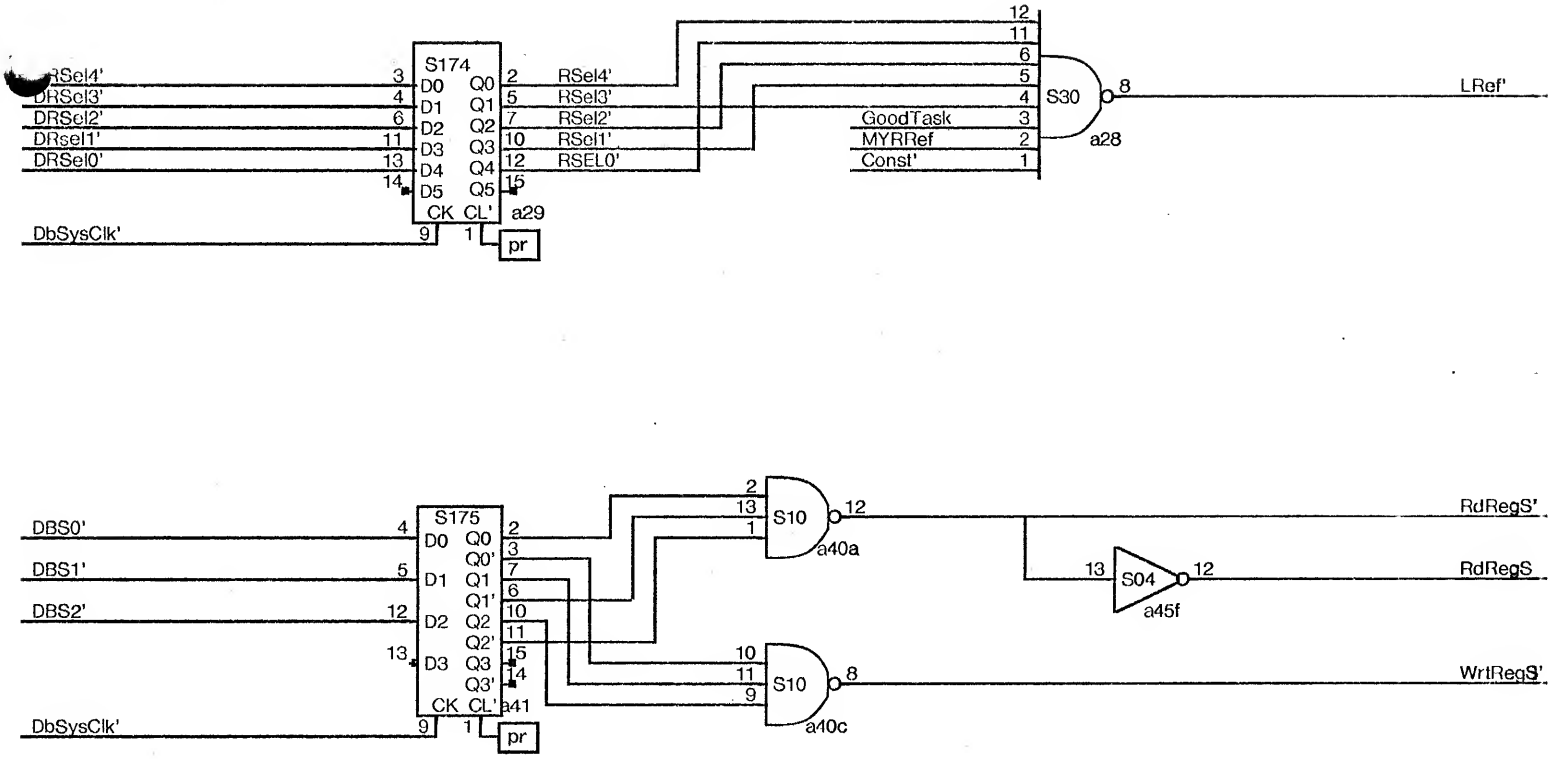
XEROX ED	Project 3K CRAM	4K RAM	File 3KCRAM12.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 11



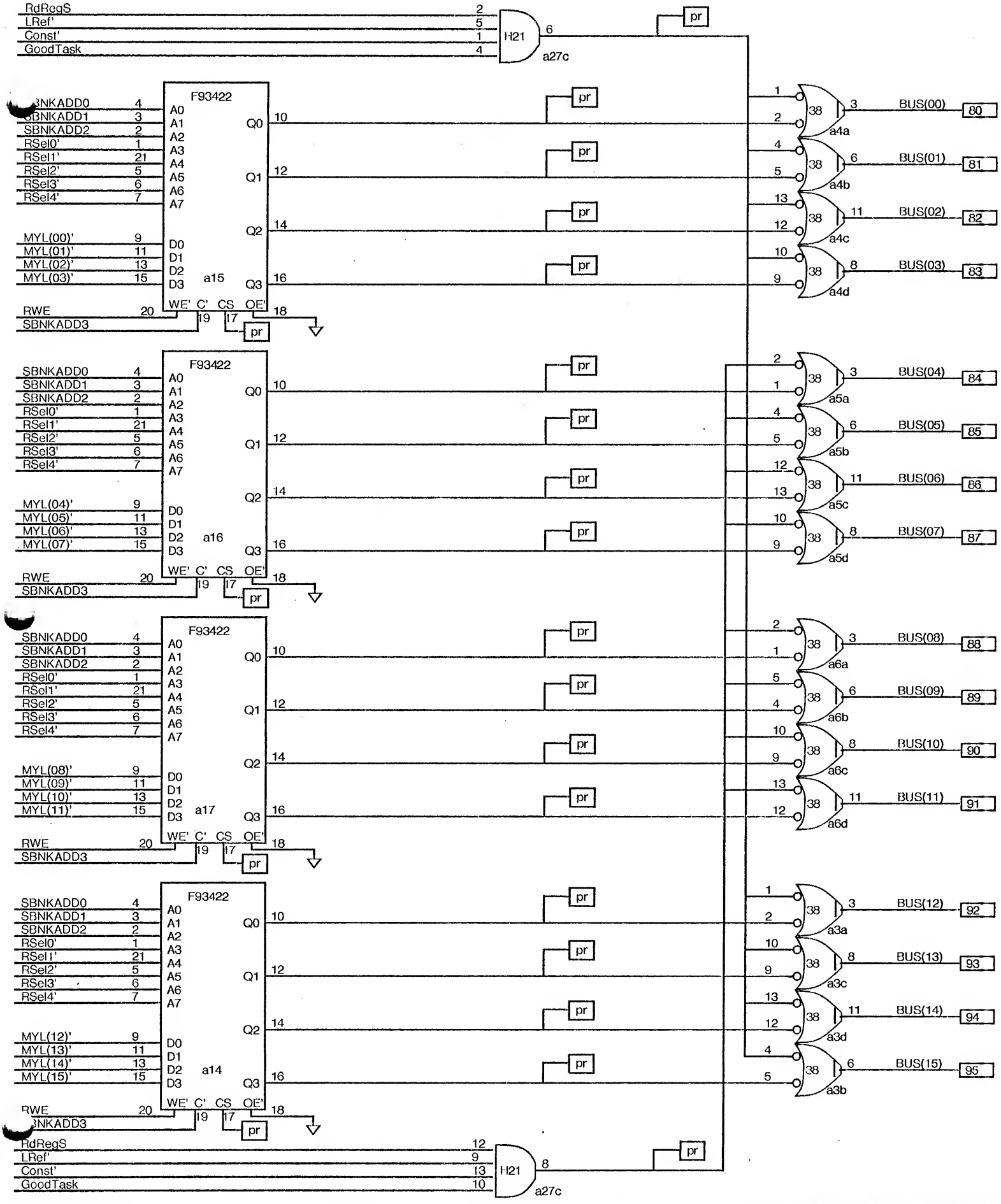
XEROX ED	Project 3K CRAM	4K RAM	File 3KCRAM13.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 12



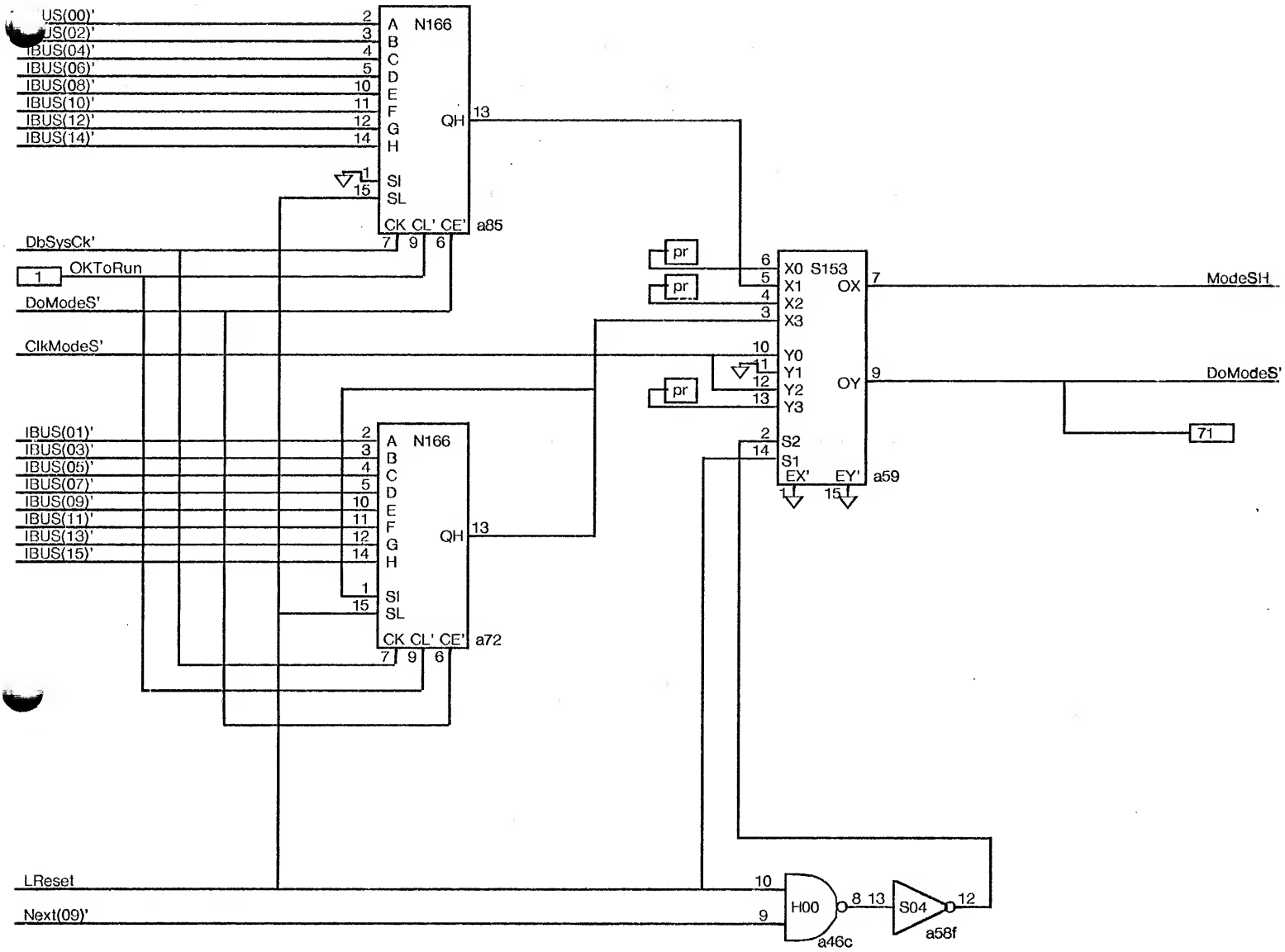
XEROX ED	Project 3K CRAM	PROCESSOR INTERFACE	File 3KCRAM14.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 13



XEROX ED	Project 3K CRAM	S REGISTER CONTROL	File 3KCRAM15.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 14



XEROX ED	Project 3K CRAM	S REGISTER	File KCRAM16.SIL	Designer ALBERT PAE	Rev B	Date 2/22/79	Page 15



XEROX ED	Project 3K CRAM	RESET MODE REGISTER	File 3KCRAM17.SIL	Designer ALBERT PAE	Rev B	Date 2/17/79	Page 16